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A Redescription of the Spider Genus *Mizaga* Simon (Agelenidae), with New Synonymy

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Simon (1898, pp. 267, 268) described the genus *Mizaga* in the subfamily Ageleninae, group Cryphoeceae, for the single species *chevreuxi*, based on a female collected at Dakar, Senegal, on the west coast of Africa. Nothing is known about the biology or habitat of the species, nor has another specimen been recorded. The advanced position of the tracheal spiracle was noted by Simon in his description.

Later Fage submitted a marine spider with an advanced spiracle to Simon which Fage thought represented a new genus in the subfamily Cybaeinae. Simon evidently confirmed his identification (Fage, 1909, p. lxxvi) and lent to Fage a specimen of *Desis* for comparison. The spider was subsequently well described as *Desidiopsis racovitzae* Fage. An excellent description of both sexes was given (Fage, 1909), along with the biology of the species and a comparison with other spiders with advanced tracheal spiracles and similar habits.

A study of the holotype of *Mizaga* and a specimen of *Desidiopsis* shows that the two are congeneric. This synonymy has been confirmed independently by P. T. Lehtinen (correspondence) of Turku, Finland. The genus could be placed equally well in either subfamily on the basis of present subfamily definitions. I follow Simon's placement of the genus in the group Cryphoeceae, of the subfamily Ageleninae, only on the basis of the widely separated anterior spinnerets.

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TABLE 1
DIFFERENCES BETWEEN *Desis* WALCKENAER AND *Mizaga* SIMON

	<i>Desis</i>	<i>Mizaga</i>
Head	Not distinct from thorax	Distinct from thorax
Chelicera	Projecting	Vertical
Labium	Twice as long as wide	One-third longer than wide
Fringe of setae over fang	Absent	Present
Endites	Acuminate	Angulate
Serrula	Absent	Present
Spines on leg I	Absent	Present
Ventral tarsal spines	Present	Absent
Tarsal trichobothria	Double row	Single row
Third claw of tarsus	No teeth	One tooth
Colulus	Broad, integument-like	Absent

Fage (1925, p. 979) believed that the two genera *Desis* and *Desidiopsis* were closely related. He stated, "Par un ensemble important de caractères anatomiques (pièces buccales, organes copulateurs, disposition du groupe oculaire, du bandeau, des stigmates trachéens, etc.), ce genre *Desidiopsis* se relie étroitement au genre *Desis*; tous les deux forment un groupe parfaitement isolé dans la famille des Agélénides." Although the habits are similar, the morphological similarities may be merely adaptations to the similar marine environment inhabited by the two genera.

A closer study of the characters, suggested by Fage as indicating a similarity between the two genera, indicates they are not so similar as he thought. The mouth parts differ greatly, and the principal similarity seems to be only the presence of two teeth on the retromargin of the chelicera. The arrangement of the eyes and the narrow clypeus are typical of many agelenids. The genitalia of the two genera differ considerably and show no more similarity than is found between many other genera of the Agelenidae. The differences listed in table 1 indicate that *Desis* is widely separated from *Mizaga* and, as will be shown in a subsequent paper, is distinct from other Agelenidae.

GENUS *MIZAGA* SIMON

Mizaga SIMON, 1898, pp. 267, 268.

Desidiopsis FAGE, 1909, pp. lxxv-lxxxiv. BERLAND, 1929, pp. 59, 60; 1932, pp. 132-134, 364; 1940, pp. 349, 350. New synonymy.

Length of females, 3.6 to 5.5 mm.; of male, 3.8 mm. Carapace longer than wide, polished, with many fine hairs but lacking plumose hair. Eyes eight, similar in size except for anterior median eyes which are

almost half of diameter of remaining eyes. Posterior eye row straight to slightly procurved, separated equidistantly; anterior eye row straight, anterior median eyes closer to each other than to laterals. Clypeus less than one-third of diameter of anterior lateral eye. Chelicera strongly geniculate, boss present, row of setae over fang, promargin with three isolated teeth, median one smallest; retromargin with two widely separated teeth. Labium longer than wide, conspicuously notched at base. Endites parallel, angulate distally; serrula present. Sternum not scalloped on sides, longer than wide, angulate posteriorly, separating hind coxae by two-thirds to four-fifths of diameter of coxae.

Carapace/tibia-patella ratio, 109–122. Spination: Tibia I, ventral 2-2-2-0; metatarsus I, ventral 2-2-2. Paired claws of fourth tarsus with seven or eight teeth, third claw with one. Female palpus with claw. Fourth tarsus with five trichobothria. Trochanters not notched. Abdomen covered with short, fine hairs. Anterior spinnerets separated by about half of their diameter, cylindrical; terminal segment minute; median spinnerets slender, as long as anterior; posterior spinnerets widely separated, cylindrical, slightly longer than anterior, terminal segment short, oblique. Colulus absent. Tracheal spiracle advanced about one-fifth to one-seventh of distance from spinnerets to epigastric furrow.

Epigynum simple, paired openings, almost entirely membranous. Patella of palpus of male lacking apophysis, tibia with short, ectal, spoon-like apophysis distally; bulb simple, no median apophysis nor conductor, embolus forming one-half circle, terminating in proximally directed spur (fig. 4).

DISTRIBUTION: Mediterranean coast of France and Tunisia and Dakar, Senegal, on the coast of western Africa.

TYPE SPECIES: *Mizaga chevreuxi* Simon.

DIAGNOSIS: This genus differs from all other described agelenids by the forward position of the tracheal spiracle. An undescribed species from New Zealand with an advanced tracheal spiracle has a distinct pointed colulus and different spination on tibia I. The genus *Desis*, with which it was compared by Fage, differs in many respects and will be discussed in a subsequent paper.

Mizaga chevreuxi Simon

Figure 1

Mizaga chevreuxi SIMON, 1898, p. 268.

DESCRIPTION OF FEMALE HOLOTYPE: Color in alcohol: Sclerotized parts orange-brown, legs and sternum slightly lighter, almost yellow-orange. Abdomen pale yellow.

Total length, 3.7 mm. (Simon, 1898, p. 268, gave the measurement as 3.0 mm.). Carapace length, 1.53 mm.; width, 1.13 mm.; head width, 0.85 mm.; eye-row width, 0.54 mm. Posterior eye row slightly procurved (3-4/6). Ratio of eyes: AME/ALE/PME/PLE = 4/7/6/7. Separation ratio of eyes: AME-AME:3; AME-ALE:5; AME-PME:3; ALE-PLE:2; PME-PME:7; PME-PLE:6. Clypeus much narrower than anterior lateral eye (7/2). Labium longer than wide (30/23). Sternum longer than wide (25/22).

Carapace/tibia-patella ratio, 122. Lengths of tibiae-patellae I and IV, 1.87 mm. and 1.56 mm. Spination: Femora I-IV lacking spines. Patellae I-IV, dorsal lbr-lbr. Tibia I, ventral 2-2-2-0, prolateral 1-0-1-0; II, ventral 2-2-2-0, prolateral 0-1-1-0; III, ventral 0-lp-lr-lp-0, prolateral 0-1-1-0, retrolateral 0-1-1-0; IV, ventral lp-lp-lp-0, retrolateral 0-0-1-0. Metatarsus I, ventral 2-2-2, prolateral 1-1-0-1-0, retrolateral 0-1-1-1-1; II, ventral 2-2-3, prolateral 1-0-1-0-1, retrolateral 0-1-0-1; III, ventral 2-2-3, prolateral 1-1-1-1, retrolateral 1-1-1-1; IV, ventral 2-lp-2, prolateral 1-1-1-1, retrolateral 0-1-0-1-1. Hind coxae separated by about two-thirds of their diameter.

Epigynum membranous, with paired openings, as illustrated in figure 1.

TYPE DATA: Female holotype, from Dakar, Senegal, Africa, in the Muséum National d'Histoire Naturelle, Paris, France, No. 14.104.

DIAGNOSIS: *Mizaga chevreuxi* Simon differs from *M. racovitzai* (Fage) by details in the epigynum, as illustrated in figures 1 and 2. The eyes are also arranged in a more compact mass, the two rows being almost contiguous compared with the more widely separated eye rows of *M. racovitzai* (Fage).

Mizaga racovitzai (Fage), new combination

Figures 2-4

Desidiopsis racovitzai FAGE, 1909, pp. lxxv-lxxxiv, figs. 1-8; 1925, p. 978. SEURAT, 1924, p. 56. BERLAND, 1929, p. 60; 1932, pp. 132, 133, 364. SIMON, 1937, p. 980, figs. 1054, 1055. DENIS, 1937, p. 170.

DESCRIPTION OF FEMALE LECTOTYPE: Color slightly darker than that of *M. chevreuxi* Simon, possibly caused by age or preservative.

Total length, 3.60 mm. Carapace length, 1.87 mm.; width, 1.36 mm.; head width, 1.05 mm.; eye-row width, 0.61 mm. Posterior eye row straight. Ratio of eyes AME/ALE/PME/PLE = 4/8/7/8. Separation ratio of eyes: AME-AME:5; AME-ALE:5; AME-PME:6; ALE-PLE:3; PME-PLE:8; PME-PME:11. Clypeus much narrower than anterior lateral eye (8/2). Labium longer than wide (14/11). Sternum longer than wide (31/27).

Carapace/tibia-patella ratio, 109. Lengths of tibiae-patellae I and IV, 2.04 mm. and 1.84 mm.

Spination similar to that of *M. chevreuxi* Simon except for the following

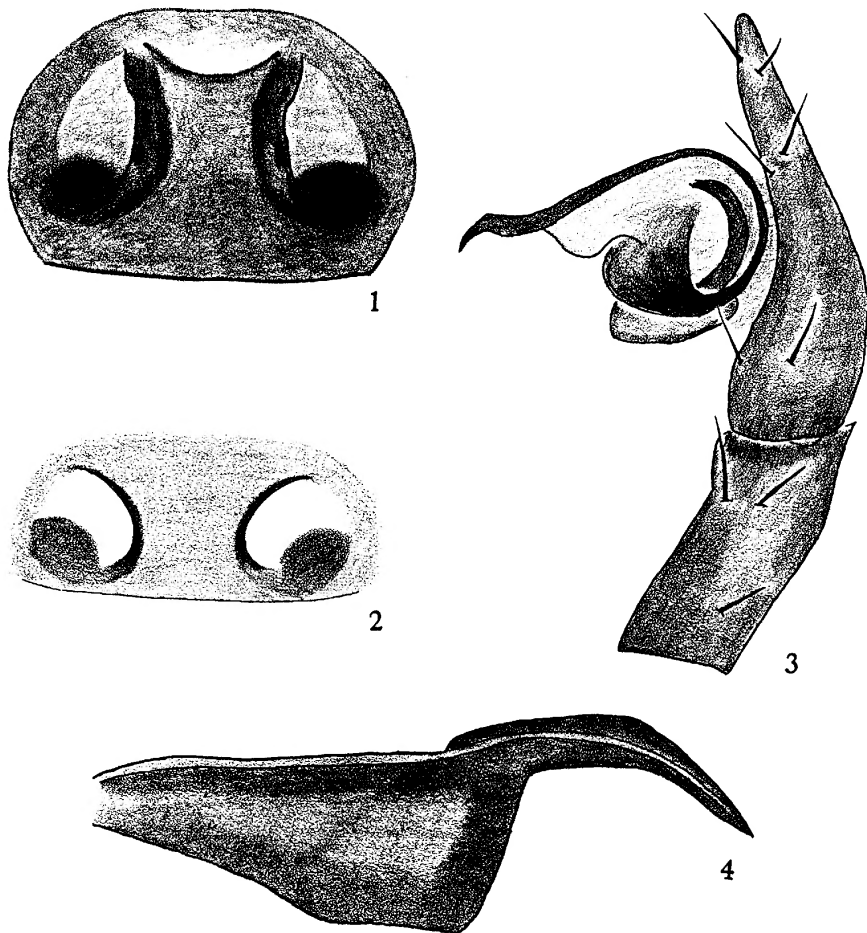


FIG. 1. *Mizaga chevreuxi* Simon, epigynum.

FIGS. 2-4. *Mizaga racovitza* (Fage). 2. Epigynum. 3. Mesial view of left palp. 4. Ectal view of tip of embolus.

difference: tibia II, ventral lr-2-2-0. Hind coxae separated by a distance of about four-fifths of their diameter.

Epigynum mostly membranous, with paired openings as shown in figure 2.

MALE: Similar to female in color and structure. Palpus as illustrated in figure 3.

Total length, 3.80 mm. Carapace length, 1.84 mm.; width, 1.29 mm.; head width, 0.85 mm.; eye-row width, 0.54 mm.

Carapace/tibia-patella ratio, 120. Lengths of tibia-patella I and II, 2.21 mm. and 1.90 mm.

Spination similar to that of *M. chevreuxi* Simon. Tibia II, ventral 2-2-2-0.

TYPE DATA: Banyuls, France, on the Mediterranean Sea. Male syn-type, and female hereby designated as lectotype, in the Muséum National d'Histoire Naturelle, Paris, France.

DISTRIBUTION: Reported from the coast of France facing the Mediterranean Sea, adjacent off-shore islands (Denis, 1937, p. 170), and from the Gulf of Gabés, Tunisia, in Africa (Seurat, 1924, p. 56). Fage (1925, p. 979) also reported that it is "Abondante le long de la côte du Roussillon, où elle fut découverte par Racovitza, je l'ai prise à Nice, à Antibes, dans le Golfe de Naples, en Sicile, à Sfax, et Seurat me l'a récemment envoyée de l'île Djerba."

DIAGNOSIS: See diagnosis of *M. chevreuxi* Simon.

REMARKS: Fage (1909, 1925) has given an excellent account of the habits of these spiders. They live in holes among calcareous algae in the intertidal zones of the Mediterranean Sea and form tubular retreats which are closed by silken webs when submerged by the incoming tide. These retreats are similar to those of the marine spider *Desis* which is found in the South Pacific and Indian oceans from the Galapagos Islands to Japan, New Zealand, Australia, India, and South Africa.

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